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Burying

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ESSAY

BURYING

*Robert Brendan Taylor**

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When applying for a patent, applicants must provide the examiner with all known material prior art. Those who fail to do so can be charged with inequitable conduct. But applicants can still effectively hide material prior art references by submitting them along with large quantities of immaterial prior art to the examiner. This deceptive practice, known as “burying,” is generally not considered inequitable conduct. This Essay summarizes the current legal landscape concerning burying, discusses the costs associated with the practice, and suggests ways to deter and punish those who do it.

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INTRODUCTION

Patent applicants must disclose all known material prior art to the U.S. Patent and Trademark Office ("USPTO").¹ Those who fail to do so may find their patent unenforceable under the controversial inequitable conduct doctrine.² Although the doctrine has received significant attention, including numerous Federal Circuit decisions and law review articles,³ one important practice generally is not considered inequitable conduct: "burying" prior art. An applicant buries material prior art and reduces the likelihood that a USPTO examiner will read it by disclosing it with large quantities of immaterial prior art. For example, one applicant disclosed a highly relevant reference with nearly six hundred other references without identifying what was relevant or why.⁴

The design of the current inequitable conduct doctrine makes it ineffective against burying. The doctrine generally only punishes applicants who fail to disclose known material prior art, incentivizing excessive disclosures and providing a pretext to bury.⁵ The USPTO similarly has almost no regulations to discourage burying.⁶ Congress also has not addressed the issue directly.⁷ Applicants are left with a means of hiding prior art while still disclosing it to the examiner.

1. 37 C.F.R. § 1.56(a) (2012).

2. The inequitable conduct inquiry balances the materiality of the prior art with the applicant's apparent intent to deceive the USPTO. If inequitable conduct is found, the entire patent can be held unenforceable. *See infra* Part I.B.

3. *See, e.g.*, *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011) (en banc); Margaret A. Boulware & Tamsen Valoir, *Inequitable Conduct*, 691 PLI/PAT. 1245, 1251 (2000). For commentary on the doctrine, see Christopher A. Cotropia, *Modernizing Patent Law's Inequitable Conduct Doctrine*, 24 BERKELEY TECH. L.J. 723 (2009); Christian E. Mammen, *Controlling the "Plague": Reforming the Doctrine of Inequitable Conduct*, 24 BERKELEY TECH. L.J. 1329 (2009); James Cronin, *Comment, Inequitable Conduct and the Standard of Materiality: Why the Federal Circuit Should Use the Reasonable Patent Examiner Standard*, 50 ST. LOUIS U. L.J. 1327 (2006); Kevin Mack, *Note, Reforming Inequitable Conduct to Improve Patent Quality: Cleansing Unclean Hands*, 21 BERKELEY TECH. L.J. 147 (2006); Elizabeth Peters, *Note, Are We Living in a Material World?: An Analysis of the Federal Circuit's Materiality Standard Under the Patent Doctrine of Inequitable Conduct*, 93 IOWA L. REV. 1519 (2008).

4. *CIVIX-DDI, LLC v. Hotels.com, L.P.*, 711 F. Supp. 2d 839, 848–49 (N.D. Ill. 2010).

5. *See infra* Part III.B.

6. *See infra* Part III.A.

7. Congress recently passed the America Invents Act ("AIA"), which provides for post-grant review of patents. *See* 35 U.S.C. §§ 321–29 (2011). The AIA does not directly address burying or inequitable conduct, but it does provide for a procedure known as "supplemental examination" which allows applicants to "cure" previous inequitable conduct before the USPTO in some instances. *See* Press Release, U.S. Patent & Trademark Office, USPTO Publishes Final Rules for Supplemental Examination and Inventor's Oath or Declaration (Aug. 13, 2012), <http://www.uspto.gov/news/pr/2012/12-51.jsp> ("A patent owner may use supplemental examination to forestall a subsequent inequitable conduct challenge to the enforceability of the patent during litigation.").

Burying comes with significant costs. It unnecessarily burdens the USPTO, increases the length of patent litigation, and hinders innovation. This Essay discusses these problems and proposes ways to deter and punish the practice. Part I explores the light treatment the USPTO and courts have given burying. Part II discusses the problems the practice creates. Part III proposes changes to the USPTO rules and inequitable conduct doctrine to deter and punish the practice.

I. BACKGROUND

A. Patent Office Rules

Applicants have a duty of candor before the USPTO that includes disclosing all known material prior art.⁸ Compliance can be challenging, however, as the definition of material is subject to change. In 1977, the USPTO ruled that a reference was material when there was “a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent.”⁹ The USPTO subsequently updated the definition, and today a reference is material if it either “establish[es] . . . a prima facie case of unpatentability” or is inconsistent with an argument for the patentability of the application.¹⁰ Although the stated purpose of the change¹¹ was to clarify the old rule,¹² the USPTO still acknowledges the confusion with the standard and suggests that applicants submit prior art whenever there is any concern about materiality.¹³ The

8. 37 C.F.R. § 1.56(a) (2012).

9. 37 C.F.R. § 1.56(a) (1991).

10. 37 C.F.R. § 1.56(b) (2012).

11. Duty of Disclosure, 57 Fed. Reg. 2021-02 cmt. 4 (proposed Jan. 17, 1992) (codified at 37 C.F.R. pts. 1, 10) (“The Office does not anticipate any significant change in the quantity of information cited to the Office after promulgation of amended § 1.56.”); *id.* cmt. 22 (“The definition of materiality in § 1.56 does not impose substantial new burdens on applicants . . .”).

12. MPEP § 2001.04 (8th ed. Rev. 9, Aug. 2012) (“The amendment to . . . 1.56 . . . address[es] criticism concerning a perceived lack of certainty in the materiality standard. . . . [The rule has been] amended to present a clearer and more objective definition of what information the Office considers material to patentability.”); Duty of Disclosure, 57 Fed. Reg. 2021-02 cmt. 1 (proposed Jan. 17, 1992) (codified at 37 C.F.R. pts. 1, 10) (“The rule as promulgated will provide greater clarity and hopefully minimize the burden of litigation on the question of inequitable conduct before the Office”); *id.* cmt. 10 (“Section 1.56 has been amended to present a clearer and more objective definition of what information the Office considers material to patentability.”).

13. MPEP § 2004.10 (8th ed. Rev. 9, Aug. 2012) (“When in doubt, it is desirable and safest to submit information. *Even [if the applicant] doesn’t consider it necessarily material*, someone else may see it differently”) (emphasis added); *see also id.* § 2001.04 (“An incentive remains to submit the information to the Office because it will result in a strengthened patent and will avoid later questions of materiality and intent to deceive. . . . [T]he new rules will actually facilitate the filing of information”). The USPTO perhaps appropriately

USPTO is essentially encouraging overdisclosure in the wake of uncertainty, providing applicants with a pretext to bury.

While the USPTO has made some attempts to curb overdisclosure, these efforts have been largely ineffective. For example, the USPTO specifically advises against long lists of references and suggests highlighting important references.¹⁴ The USPTO also suggests applicants keep a record of the prior art they believe to be immaterial, along with the reasons why.¹⁵ Applicants will be unlikely to heed such suggestions, however, if doing so makes them more vulnerable to inequitable conduct charges based on non-disclosure.¹⁶

Applicants must also make a reasonable inquiry as to whether the information they wish to submit supports their arguments for patentability and will not needlessly burden the USPTO.¹⁷ In 2008, the USPTO's Discipline Director stated that this rule requires applicants to have read the reference they intend to submit to the USPTO.¹⁸ But requiring applicants merely to read the reference is not particularly effective, as applicants presumably at least skim the references they intend to submit already.¹⁹ Although the USPTO does have a more substantive rule requiring applicants to provide a concise explanation of the prior art's relevance to the patent application, this requirement only applies to foreign language references.²⁰ For references in

appears to value the possibility of extra information more highly than reducing its own workload.

14. *Id.* § 2004.13 (8th ed. Rev. 9, Aug. 2012) ("It is desirable to avoid the submission of long lists of documents if it can be avoided. Eliminate clearly irrelevant and marginally pertinent cumulative information. If a long list is submitted, highlight those documents which have been specifically brought to applicant's attention and/or are known to be of most significance.").

15. *Id.* § 2004.18 ("[I]f information was specifically considered and discarded as not material, this fact might be recorded in an attorney's file or applicant's file, including the reason for discarding it. If judgment might have been bad or something might have been overlooked inadvertently, a note made at the time of evaluation might be an invaluable aid in explaining that the mistake was honest and excusable. Though such records are not required, they could be helpful in recalling and explaining actions in the event of a question of 'fraud' or 'inequitable conduct' raised at a later time.").

16. *Cf.* Russell Magaziner, *The U.S. Patent and Trademark Office's Proposed Information Disclosure Statement Rules: Too Novel and Nonobvious*, 83 IND. L.J. 719, 731 (2008).

17. 37 C.F.R. § 11.18(b)(2) (2012).

18. *See* Dennis Crouch & Jason Rantanen, *Patent Practitioner Ethics Update*, PATENTLY-O.COM (Dec. 2, 2008), <http://www.patentlyo.com/patent/2008/12/patent-practiti.html>. Some commentators have interpreted the provision similarly. *See, e.g.,* Cotropia, *supra* note 3, at 777–78.

19. Presumably there is a minimal threshold of reading required to know the reference is somehow related to the patent application.

20. 37 C.F.R. § 1.98(a)(3)(i) (2012); *see also* MPEP § 609.04(a)(III) (8th ed. Rev. 9, Aug. 2012) ("If a complete translation of the information into English is submitted with the non-English language information, no concise explanation is required."). Rule 1.98's requirement is a weak one, however, as even the abstract of the document, if it is in English, is acceptable—no further explanation of relevance is required. *See* MPEP § 609.04(a)(III)

English, an explanation of relevance is encouraged but not required.²¹ These rules do little to deter overdisclosure or burying.

To alleviate the overdisclosure concern, the USPTO proposed changes to how applicants submit Information Disclosure Statements (“IDS”).²² An IDS is a form that patent applicants use to provide the examiner with relevant prior art references.²³ The suggested changes were intended to discourage applicants from submitting excessive references.²⁴ Under the proposed rules, if a disclosure were made before the first office action or three months from filing, and more than twenty references were submitted, then the applicant would have to specifically identify which parts of each reference justified its inclusion in the IDS.²⁵ If the disclosure were made after this first period but before allowance by the USPTO, then the applicant would also have to explain why the new references were not cumulative over previously disclosed references.²⁶ Finally, if the disclosure were made after allowance but before issue, the applicant additionally would have to explain why the submitted references did not invalidate the independent claims of the patent application.²⁷ The amount of work these rules would have entailed for certain types of disclosures may have prevented most applicants from burying—not only because of the paperwork required but also because of their inability to provide an adequate explanation for submitting so much immaterial prior art. The time-based requirement also targets potentially deceptive last-minute disclosures.²⁸ Unfortunately, these rules were

(“Submission of an English language abstract of a reference may fulfill the requirement for a concise explanation.”).

21. *Id.* (“[Though not required,] applicants are encouraged to provide a concise explanation of why the English-language information is being submitted and how it is understood to be relevant. Concise explanations . . . are helpful to the Office, particularly where documents are lengthy and complex . . .”).

22. Changes to Information Disclosure Statement Requirements and Other Related Matters, 71 Fed. Reg. 38808-01 (proposed July 10, 2006).

23. See 37 C.F.R. §§ 1.97, 1.98 (2012); see also Changes To Information Disclosure Statement Requirements and Other Related Matters, 71 Fed. Reg. 38808-01, 38809 (proposed July 10, 2006) (noting sections 1.97 and 1.98 provide “a mechanism by which patent applicants may comply with the duty of disclosure provided in § 1.56”); MPEP § 609 (8th ed. Rev. 9, Aug. 2012).

24. See Magaziner, *supra* note 16, at 729; see also Lisa A. Dolak, *Beware the Inequitable Conduct Charge! (Why Practitioners Submit What They Submit)*, 91 J. PAT. & TRADEMARK OFF. SOC’Y 558, 567–68 (2009).

25. See Changes to Information Disclosure Statement Requirements and Other Related Matters, 71 Fed. Reg. 38808-01 (proposed July 10, 2006). If fewer than twenty references were submitted, but a given document was over twenty-five pages in length or in a foreign language, and the other conditions were met, then the rule still applied to those references. *Id.*

26. *Id.*

27. *Id.*

28. See discussion *infra* Part III.A.

never implemented.²⁹ Because these rules were never enacted, applicants still have freedom to bury references.

Without strong USPTO rules to deter burying, courts hold the burden of addressing deceptive overdisclosure. While some courts do recognize the problem, they are doing very little to deter the practice.

B. Caselaw

1. The Inequitable Conduct Doctrine

Burying allegations are made under the inequitable conduct doctrine. Inequitable conduct is invoked by an alleged infringer in a patent infringement action based on a patent applicant's unfair conduct before the USPTO. A finding of inequitable conduct may render the patent unenforceable.³⁰ Because of these harsh consequences, a litigant alleging inequitable conduct based on nondisclosure of prior art known to the applicant must demonstrate by clear and convincing evidence that (1) the prior art was material and (2) the applicant intended to deceive the USPTO.³¹ In the past, a weak showing for one prong could be balanced by a strong showing for the other,³² but today "[i]ntent and materiality are separate requirements."³³ If both prongs are met, the court will determine whether equitable considerations warrant finding the patent unenforceable.³⁴

The Federal Circuit in *Therasense, Inc. v. Becton, Dickinson & Co.* ruled that the materiality of a reference is determined by a but-for standard.³⁵ That is, "prior art is but-for material if the [US]PTO would not have allowed a claim had it been aware of the undisclosed prior art."³⁶ And because the USPTO only applies a preponderance of the evidence standard in determining whether a patent should be issued in light of the prior art, a court assessing inequitable conduct need only determine that it is more like-

29. One reason the proposed changes to the IDSs were never implemented may have been a change in administration. *Cf.* Dennis Crouch & Jason Rantanen, *PTO to Delay IDS & Markush Rules Until 2009*, PATENTLY-O (Oct. 27, 2008, 3:20 PM), <http://www.patentlyo.com/patent/2008/10/pto-to-delay-id.html>; *see also infra* Part III.A (discussing how related proposals might be used to deter burying).

30. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1285, 1289 (Fed. Cir. 2011) (en banc).

31. *Id.* at 1304.

32. *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008) (citing *Monsanto Co. v. Bayer BioScience N.V.*, 363 F.3d 1235, 1239 (Fed. Cir. 2004)). For a prescient suggestion that the two prongs should *not* be balanced, see Cotropia, *supra* note 3, at 775–77.

33. *Therasense*, 649 F.3d at 1290.

34. *Star Scientific*, 537 F.3d at 1367.

35. *Therasense*, 649 F.3d at 1291.

36. *Id.* at 1291. An exception exists for when the otherwise material reference is cumulative to existing material references. *See Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1336–37 (Fed. Cir. 2008).

ly than not that the absent prior art would have rendered the claims unpatentable before the USPTO.³⁷ Although the court did not explicitly state whether it was raising the bar for materiality,³⁸ it did resolve confusion over which materiality standard should apply.³⁹

To satisfy the intent prong, an accused infringer must prove by clear and convincing evidence that the applicant “knew of the reference, knew that it was material, and made a deliberate decision to withhold it.”⁴⁰ Although intent can be inferred in limited circumstances,⁴¹ it frequently will be difficult to prove because there is rarely a “smoking gun.”⁴² These evidentiary issues also apply to proving intent to bury.

37. MPEP § 706 (8th ed. Rev. 9, Aug. 2012). Note that this is a lower burden of proof than what courts use to invalidate a patent under 35 U.S.C. § 282, which is a clear and convincing evidence standard. *See* Microsoft Corp. v. i4i Ltd. P’ship, 131 S. Ct. 2238, 2242 (2011).

38. It appears that the court did: “In the past, this court has tried to address the proliferation of inequitable conduct charges by raising the intent standard alone This higher intent standard, standing alone, did not reduce the number of inequitable conduct cases before the courts and did not cure the problem of overdisclosure of marginally relevant prior art to the PTO. To address these concerns, this court adjusts as well the standard for materiality.” *Therasense*, 649 F.3d at 1291.

39. In the past, five different standards of materiality have been used. *See* Thomas Cotter, *An Economic Analysis of Patent Law’s Inequitable Conduct Doctrine*, 53 ARIZ. L. REV. 735, 743–44 (2011). The first two materiality standards originated with the USPTO and are discussed in Part I: the pre-1992 standard, where a “reasonable examiner would consider [the reference] important,” 37 C.F.R. § 1.56 (1991), and the post-1992 standard, where the information “establishes a prima facie case of unpatentability” or “refutes or is inconsistent” with positions taken by the applicant. 37 C.F.R. § 1.56(a) (1992). The three other tests that have been used include (1) the objective but-for test (the misrepresented prior art should have prevented the patent from issuing), (2) a subjective but-for test (the particular examiner would not have issued the patent but for the misrepresentation), and (3) a but-it-may-have test where a reference could be material if it might have influenced the examiner’s decision. *See* Cotter, *supra*, at 744; *Digital Control Inc. v. Charles Mach. Works*, 437 F.3d 1039, 1315–16 (Fed. Cir. 2006) (reviewing the materiality standards). The test today appears to be a hybrid of the objective and subjective “but-for” tests. *Digital Control*, 437 F.3d at 1315–16 (reviewing the materiality standards).

40. *Therasense*, 649 F.3d at 1290.

41. *See id.*; *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008). *But see* Magaziner, *supra* note 16, at 727 (“The level of actual intent may be extremely low”). The court can also infer intent if the applicant “should have known” the reference was highly material. *See* *Ferring B.V. v. Barr Labs.*, 437 F.3d 1181, 1191 (Fed. Cir. 2006) (“[A] patentee facing a high level of materiality and clear proof that it knew or should have known of that materiality, can expect to find it difficult to establish ‘subjective good faith’ sufficient to prevent the drawing of an inference of intent to mislead” (quoting *Critikon, Inc. v. Becton Dickinson Vascular Access, Inc.*, 120 F.3d 1253, 1257 (Fed. Cir. 1997))).

42. *See* *Akron Polymer Container Corp. v. Exxel Container, Inc.*, 148 F.3d 1380, 1384 (Fed. Cir. 1998) (“[T]he facts in inequitable conduct cases rarely, if ever, include direct evidence of admitted deceitful conduct.”).

2. Appellate Caselaw on Burying

Appellate caselaw does not provide a definite answer as to whether burying is a form of inequitable conduct. One of the most favorable cases for treating burying as inequitable conduct predates the Federal Circuit.⁴³ In *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, the Fifth Circuit upheld a lower court's decision that rendered a patent unenforceable for burying.⁴⁴ The applicant submitted a particularly relevant prior art patent with twelve other less relevant patents. Although the other patents were all the result of a pre-filing search, the important patent had issued after the filing date.⁴⁵ The applicant misleadingly stated in his submission that all of the patents were the result of a pre-examination search.⁴⁶ The district court found that the applicant buried the important reference and, in part for this reason, held the patent unenforceable.⁴⁷ The Fifth Circuit affirmed.⁴⁸

The Federal Circuit first substantively addressed burying in *Molins PLC v. Textron, Inc.*⁴⁹ In *Molins*, the original patent applicant failed to disclose a material reference. A subsequent assignee of the patent submitted the material reference to the USPTO after discovering that the original applicant knew of the reference but failed to disclose it. The assignee, however, submitted the material reference with nearly one hundred other references.⁵⁰ The district court held the patent unenforceable based on the timing and method of disclosure.⁵¹ On appeal, the Federal Circuit reversed. The court

43. The Federal Circuit, formed in 1982, has exclusive jurisdiction of appeals of district court decisions in actions that arose under federal patent statutes. 28 U.S.C. § 1295 (2011). For a history of the creation of the court, see Paul M. Janicke, *To Be or Not to Be: The Long Gestation of the U.S. Court of Appeals for the Federal Circuit (1887–1982)*, 69 ANTITRUST L.J. 645 (2002).

44. *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 479 F.2d 1328 (5th Cir. 1973) (per curiam).

45. *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 964–65 (D. Fla. 1972).

46. *Id.*

47. *Id.* at 965

48. *Penn Yan*, 479 F.2d 1328.

49. *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1184–86 (Fed. Cir. 1995). *Molins* is not the first Federal Circuit decision on burying, but it appears to provide the first real discussion of the practice. For example, the year before *Molins*, the Federal Circuit affirmed, without publishing an opinion, a lower court decision finding inequitable conduct in part because the applicant engaged in burying. See *Golden Valley Microwave Foods, Inc. v. Weaver Popcorn Co.*, 837 F. Supp. 1444, 1453–64 (N.D. Ind. 1992), *aff'd*, 11 F.3d 1072 (Fed. Cir. 1993). Some years prior to *Golden Valley*, the Federal Circuit in an unpublished table decision found inequitable conduct where an applicant had failed to disclose a reference and both “buried” and mischaracterized another reference. *Donaldson Co. v. Pneumafil Corp.*, 824 F.2d 979 (Fed. Cir. 1987). In *Donaldson* the court's focus was on the nondisclosure of one reference and the misleading characterization of the other reference, rather than the other reference being “buried” per se. *Id.*

50. *Molins*, 48 F.3d at 1183.

51. *Molins PLC v. Textron, Inc.*, 821 F. Supp. 1551, 1572 (D. Del. 1992) (“[The material reference] was initially withheld and later disclosed with a large number of other allegedly

noted that burying can be “probative of bad faith”⁵² and found that the subsequent patent owner had attempted to “repair” the situation by submitting the art. Thus, the court did not find clear and convincing evidence of an intent to deceive.⁵³ The court also distinguished the case from *Penn Yan*, noting that the references in *Penn Yan* were not only buried but also mischaracterized.⁵⁴

Despite the suggestion that burying could be “probative of bad faith,” other parts of *Molins*, as well as other Federal Circuit decisions, could be interpreted to mean that burying cannot be inequitable conduct. In a subsequent discussion of inequitable conduct that did not involve burying, the *Molins* court cited *Scripps Clinic & Research Foundation v. Genentech, Inc.* for the proposition that “[w]hen a reference was before the examiner, whether through the examiner’s search or the applicant’s disclosure, it cannot be deemed to have been withheld from the examiner.”⁵⁵ Subsequent cases, such as *Litton Systems, Inc. v. Honeywell, Inc.*⁵⁶ and *Fiskars, Inc. v. Hunt Manufacturing Co.*⁵⁷ also cite to the same language from *Scripps*. One potential implication of this language is that because a buried reference is technically “before the examiner,” it is not “withheld” and cannot be a basis for inequitable conduct.⁵⁸

The *Scripps*, *Litton*, and *Fiskars* Federal Circuit decisions do not necessarily preclude burying from being a form of inequitable conduct as they did

prior art references. Failing to highlight the [material reference] in light of [patentee’s] knowledge regarding [applicant’s] actions in the foreign prosecutions, violated the duty of candor owed to the U.S. PTO.” (citing *Penn Yan*, 359 F. Supp. at 964–65)).

52. *Molins*, 48 F.3d at 1184.

53. *Id.* Judge Nies dissented, arguing that the patentee could not have possibly “repaired” the situation by burying the reference. *See id.* at 1188–90 (Nies, J., dissenting). Judge Nies had a good point—the Federal Circuit had a standard for correcting prior misrepresentations, and the patentee in *Molins* almost certainly did not meet it. *See Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1572 (Fed. Cir. 1983) (“It does not suffice that one knowing of misrepresentations in an application or in its prosecution merely supplies the examiner with accurate facts without calling his attention to the untrue or misleading assertions sought to be overcome, leaving him to formulate his own conclusions.”). Despite this, Federal Circuit decisions continue to find that submitting buried information to “fix” earlier disclosure problems is evidence of good, not bad, faith. *See, e.g., Purdue Pharma Prods. L.P. v. Par Pharm., Inc.*, 377 Fed. App’x 978, 984 (Fed. Cir. 2010) (“Specifically, the fact that the applicants later submitted to the PTO the [buried references] strongly suggests that the applicants did not act with deceptive intent . . .”).

54. *Molins*, 48 F.3d at 1183.

55. *Id.* at 1185 (citing *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1582 (Fed. Cir. 1991), *overruled on other grounds*, *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009)).

56. *Litton Sys., Inc. v. Honeywell, Inc.*, 87 F.3d 1559, 1571 (Fed. Cir. 1996), *vacated on other grounds*, 520 U.S. 1111 (1997), *aff’d in part, rev’d in part, vacated in part, and remanded*, 140 F.3d 1449 (Fed. Cir. 1998), *abrogated by Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558 (Fed. Cir. 2000).

57. *Fiskars, Inc. v. Hunt Mfg. Co.*, 221 F.3d 1318 (Fed. Cir. 2000).

58. Some district courts have adopted this interpretation, as discussed later in this section.

not address the burying issue directly. In *Scripps*, the reference had not been disclosed and instead was discovered by the patent examiner “on his own.”⁵⁹ In *Litton*, the patent applicant originally withheld the reference but later disclosed it during reissue.⁶⁰ In *Fiskars*, the applicant disclosed a brochure describing what he considered to be the closest prior art to his invention, but the examiner indicated that the brochure had not been considered.⁶¹ The Federal Circuit consequently found no inequitable conduct because the brochure was before the examiner.⁶² None of these decisions speak directly to burying, and none necessarily preclude the practice from being a form of inequitable conduct.

Recent decisions from the Federal Circuit increasingly recognize the problems of burying but stop short of considering it inequitable conduct. In *Semiconductor Energy Laboratory Co. v. Samsung Electronics Co.*, the Federal Circuit found that submitting a reference in a foreign language, along with a partially translated version of the reference that directed the examiner away from material information, amounted to “constructively with[holding]” the reference.⁶³ The defendants in the case argued that providing this partial translation, along with an untranslated version of the full document and ninety other references as prior art, was a form of burying, citing *Molins*.⁶⁴ Although the Federal Circuit did not address this specific burying argument, the overall finding that a reference before the examiner could nonetheless be constructively withheld is promising for the burying defense.⁶⁵ Subsequently, in *eSpeed, Inc. v. BrokerTech USA, L.L.C.*,

59. *Scripps*, 927 F.2d at 1582.

60. The lower court in *Litton* separately addressed a burying argument but found that submitting a list of eighty two undifferentiated references, by itself, did not amount to inequitable conduct. *Litton Sys., Inc. v. Honeywell Inc.*, CV 90-93 MRP, CV 90-4823, 1995 WL 366468, at *37 (C.D. Cal. Jan. 6, 1995) (citing *Golden Valley* and *Penn Yan*, discussed *supra*). The Federal Circuit decision did not address this specific argument. The decision coincidentally refers to the burying of a cumulative reference in a footnote of a patentability report, *Litton*, 87 F.3d at 1570, which is not the conduct covered in this Essay.

61. *Fiskars*, 221 F.3d at 1326–27.

62. *Id.* at 1327–28 (“Fiskars’ citation as prior art defeats Hunt’s charge that the Maruzen device was withheld with deceptive intent An applicant’s citation of prior art in accordance with the rules of the PTO precludes a finding of withholding of that prior art with deceptive intent.”).

63. *Semiconductor Energy Lab. Co. v. Samsung Elecs. Co.*, 204 F.3d 1368, 1377 (Fed. Cir. 2000).

64. Brief for Defendants-Cross Appellants at 21 n.2, *Semiconductor Energy Lab. Co. v. Samsung Elecs. Co.*, 204 F.3d 1368 (Fed. Cir. 2000) (Nos. 98-1377, 99-1103) (citing *Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1184 (Fed. Cir. 1995)).

65. *Semiconductor Energy Lab.*, 204 F.3d at 1378. In particular, during later litigation between the same parties, *Semiconductor Energy Laboratory Co. v. Samsung Electronics Co.*, 749 F. Supp. 2d 892 (W.D. Wis. 2010), the court stated:

I am not convinced that as a matter of law, the holdings in *Fiskars* and *Scripps* [sic] preclude all inequitable conduct claims alleging the burying or concealing of a reference. In fact, in *SEL II*, 204 F.3d at 1376, the Federal Circuit found that plaintiff’s intent to deceive the patent office could be inferred from its disclosure of a partial

the court cited *Semiconductor Energy* when it found inequitable conduct in part because of the applicant's "blizzard of paper."⁶⁶ In *eSpeed*, the entity asserting the patent learned that important prior art known during the application process had not been disclosed. To cure this problem, the entity submitted declarations by the patent's inventors about the missing prior art. The declarations and accompanying exhibits totaled over a thousand pages, and certain of the submitted declarations contained deceptive statements. The district court found that the "blizzard of paper" submitted by the applicant was consistent with an intent to hide important information, and together with the misleading statements "amply" supported a finding of intent.⁶⁷ The Federal Circuit upheld the district court's finding, noting both the size of the disclosure and the deceptive statements made by the declarants.⁶⁸

Most recently, in *Therasense, Inc. v. Becton, Dickinson & Co.*, an en banc Federal Circuit noted that "patent prosecutors regularly bury PTO examiners with a deluge of prior art references, most of which have marginal value,"⁶⁹ and further recognized various amici briefs addressing this practice.⁷⁰ The court went on to raise the standards for inequitable conduct.⁷¹ Although the court recognized some of the problems associated with burying, it did not specifically state how or even *if* the new inequitable conduct standard addressed burying. The court's discussion of the new materiality standard also focused on "withheld" references, making it unclear that disclosed-but-buried references could be "material" under the new standard.⁷² And although a broad exception to the but-for materiality standard was recognized for "affirmative egregious acts,"⁷³ it appears that even obvious cases of burying might not fall under this exception.⁷⁴ The *Therasense* decision

translation of a Japanese reference, even though plaintiff had submitted a full, untranslated version, because the partial translation omitted key teachings of the reference that rendered the pending claims unpatentable.

Id. at 903.

66. *eSpeed, Inc. v. BrokerTec USA, L.L.C.*, 480 F.3d 1129, 1137 (Fed. Cir. 2007).

67. *eSpeed, Inc. v. BrokerTech USA, L.L.C.*, 417 F. Supp. 2d 580, 598 (D. Del. 2006).

68. *eSpeed*, 480 F.3d at 1137–38.

69. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1289 (Fed Cir. 2011).

70. *Id.* at 1289–90.

71. *See, e.g., id.* at 1289–90, 1291.

72. *See, e.g., id.* at 1291 ("When an applicant fails to disclose prior art to the PTO, that prior art is but-for material if the PTO would not have allowed a claim had it been aware of the undisclosed prior art. Hence, in assessing the materiality of a withheld reference, the court must determine whether the PTO would have allowed the claim if it had been aware of the undisclosed reference."); *see also* 1st Media, LLC v. Elec. Arts, Inc., 694 F.3d 1367, 1372 (Fed. Cir. 2012) ("This court's recent opinion in *Therasense* changed the standard for proving inequitable conduct based on nondisclosure of a reference to the PTO.").

73. *Therasense*, 649 F.3d at 1293.

74. The examples provided of falling within the "but for" standard, namely "filing of an unmistakably false affidavit," "manufacture of evidence," and "bribery," in combination with the court's statement that "failure to mention prior art references," would *not* qualify as an egregious act, seem to allow little room for burying in the exception. *Id.* at 1293, 1314.

makes it far from clear whether the change in the inequitable conduct standard will have any real impact on burying.⁷⁵

This mix of appellate law has led to divergent decisions in district courts. Some have refused to consider burying at all.⁷⁶ In *Symbol Technologies, Inc. v. Aruba Networks, Inc.*, for example, the court granted a motion to strike a burying allegation.⁷⁷ The court relied on *Scripps* and *Fiskars* in deciding that an inequitable conduct allegation based on burying was “insufficient as a matter of law.”⁷⁸ Other district courts appear to recognize the doctrine but find reasons not to apply it.⁷⁹ For example, in *Purdue Pharmaceutical Products L.P. v. Par Pharmaceutical, Inc.* the court recognized *Molins*’s support for the burying defense, but found that providing summaries of the submitted references was sufficient to overcome the burying allegations.⁸⁰ Other courts have provided stronger support for the doctrine,

75. Preliminary commentary on the case suggests that it may backfire. See Zhe (Amy) Peng et al., *A Panacea for Inequitable Conduct Problems or Kingsdown Version 2.0? The Therasense Decision and a Look into the Future of U.S. Patent Law Reform*, 16 VA. J.L. & TECH. 373, 390 (2011).

76. See, e.g., *Symbol Techs. v. Aruba Networks, Inc.*, 609 F. Supp. 2d 353, 358–59 (D. Del. 2009); *Haney v. Timesavers, Inc.*, 900 F. Supp. 1378, 1380, 1382 (D. Or. 1995) (“The court cannot infer an intent to deceive . . . from the manner in which the information was conveyed to the Patent Office when the information was, in fact, conveyed.”); *H.H. Robertson Co. v. Barger Metal Fabricating Co.*, 225 U.S.P.Q. 1191, 1206 n.36 (N.D. Ohio 1984) (“[T]he Court will not infer that the patent examiner was unable to cope with 71 pages of paperwork.”).

77. *Symbol Techs.*, 609 F. Supp. 2d at 358–59.

78. *Id.*

79. See, e.g., *Human Genome Sci., Inc. v. Genentech, Inc.*, No. 2:11-cv-6519-MRP, 2011 WL 7461768, at *5 (C.D. Cal. Dec. 9, 2011) (finding burying allegations were not sufficiently pled); *FURminator, Inc. v. Kim Laube & Co.*, 758 F. Supp. 2d 797, 831 (E.D. Mo. 2010) (rejecting burying allegation premised on applicant’s failure to provide summaries of submitted references); *Humanscale Corp. v. CompX Int’l, Inc.*, No. 3:09-CV-86, 2010 WL 3222411, at *15–16 (E.D. Va. Aug. 16, 2010) (no intent to deceive when International Search Report marked a reference as particularly important, but applicant failed to identify reference in subsequent IDS); *Advanced Ion Beam Tech., Inc. v. Varian Semiconductor Equip. Assocs.*, 721 F. Supp. 2d 62, 78 (D. Mass. 2010) (recognizing the burying doctrine but finding that the facts did not support a burying allegation); *Kimberly-Clark Worldwide v. First Quality Baby Prods., LLC*, 714 F. Supp. 2d 919, 937 (E.D. Wis. 2010) (failure to highlight references was not burying); *Sunrise Med. HHG, Inc. v. AirSep Corp.*, 95 F. Supp. 2d 348, 460–61 (W.D. Pa. 2000) (recognizing the burying doctrine, but finding reference alleged to have been buried not material); *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 68 F. Supp. 2d 508, 545–47 (D.N.J. 1999) (recognizing the burying doctrine, but finding no intent to bury); *Litton Sys., Inc. v. Honeywell, Inc.*, No. CV 90-93 MRP, 1995 WL 366468, at *37–38 (C.D. Cal. Jan. 6, 1995) (recognizing the burying doctrine, but finding allegation insufficient because patentee argued that he did not wish to mislead the examiner by emphasizing some references over others), *rev’d* 87 F.3d 1559, 1571 (Fed. Cir. 1996) (“An applicant cannot intentionally withhold a reference actually considered by the PTO, even though the applicant may not have disclosed the art.”), *vacated on other grounds*, 520 U.S. 1111 (1997), *aff’d in part, rev’d in part, vacated in part and remanded*, 140 F.3d 1449 (Fed. Cir. 1998) *abrogated by Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558 (Fed. Cir. 2000).

80. *Purdue Pharma Prods. L.P. v. Par Pharm., Inc.*, 642 F. Supp. 2d 329, 377 (D. Del. 2009), *aff’d*, 377 Fed. App’x 978 (Fed. Cir. 2010).

but only in the context of non-final case determinations.⁸¹ In *Reid Ashman Manufacturing, Inc. v. Swanson Semiconductor Service, L.L.C.*, for example, a magistrate judge refused to strike the burying defense.⁸² Similarly, in *Synqor, Inc. v. Cisco Systems, Inc.* the magistrate judge found that burying could be the basis for an inequitable conduct allegation and denied a motion to strike.⁸³ Though decisions like *Reid* and *Synqor* recognize the doctrine, these decisions concern pleadings as opposed to actual findings of inequitable conduct.⁸⁴

Further, only two International Trade Commission (“ITC”) opinions discuss burying.⁸⁵ In *Certain Digital Satellite System (“DSS”) Receivers*,⁸⁶ the patentee submitted 253 references to the examiner in four disclosures. The plaintiff argued there could not have been any meaningful review of the references but the administrative law judge (“ALJ”) disagreed, noting that

81. See, e.g., *Pfizer Inc. v. Teva Pharms. USA, Inc.*, 803 F. Supp. 2d 459, 463 (E.D. Va. 2011) (finding that deceptive intent based partly on burying, although “strained,” was sufficient for pleading under Rule 9(b)); *Kimberly-Clark Worldwide, Inc. v. First Quality Baby Prods., LLC*, No. 09-C-0916, 2010 WL 3386599, at *1–2 (E.D. Wis. Aug. 25, 2010) (expressing doubt, but refusing to strike burying defense plead on unclean hands, as opposed to inequitable conduct grounds); *MySpace, Inc. v. Graphon Corp.*, 732 F. Supp. 2d 915, 918 (N.D. Cal. 2010) (recognizing burying doctrine in context of granting early hearing on inequitable conduct); *CIVIX-DDI, LLC v. Hotels.com, L.P.*, 711 F. Supp. 2d 839, 848–49 (N.D. Ill. 2010) (granting motion to amend complaint to include burying allegation); *Reid-Ashman Mfg., Inc. v. Swanson Semiconductor Serv., LLC*, No. C-06-4693 JCS, 2007 WL 1394427, at *6–7 (N.D. Cal. May 10, 2007) (refusing to strike inequitable conduct defense based on burying); *Dri Mark Prods., Inc. v. Wilpak Indus., Inc.*, No. 04-CV-696 (JBW), 2006 WL 2882565, at *1, *14 (E.D.N.Y. Oct. 6, 2006) (relying in part on burying to deny motion to set aside magistrate judge’s recommendation for summary judgment); *Black & Decker, Inc. v. Hoover Serv. Ctr.*, 765 F. Supp. 1129, 1137–38 (D. Conn. 1991) (finding plaintiff did not demonstrate reasonable likelihood that inequitable conduct defense would fail on motion for preliminary injunction, where patentee had submitted forty-one references to the USPTO and arguably mischaracterized one of the material references submitted).

82. *Reid-Ashman*, 2007 WL 1394427, at *6–7.

83. *Synqor, Inc. v. Cisco Sys., Inc.*, No. 11-cv-54, 2012 U.S. Dist. LEXIS 129463 (E.D. Tex. Aug. 7, 2012). Magistrate Judge Craven provides an excellent overview of the caselaw on the subject, and her report was adopted by the district judge. *Synqor, Inc. v. Cisco Systems, Inc.*, No. 11-cv-54, 2012 WL 3984865 (E.D. Tex. Sept. 11, 2012).

84. Indeed, in *Synqor* the magistrate judge specifically noted that the burying allegation in that case was sufficient to survive a motion to strike but “may not be enough to satisfy the *Therasense* elements by clear and convincing evidence.” *Synqor*, No. 11-cv-54. 2012 U.S. Dist. LEXIS 129463, at *23 (E.D. Tex. Aug. 7, 2012).

85. The ITC is an Article I administrative body with the power to investigate imports that allegedly infringe intellectual property rights. The ITC can issue exclusion orders that prevent the importation of products found to infringe a patent. It can also render a patent unenforceable for inequitable conduct. While the decision will only apply within the ITC, Article III courts may still consider such decisions persuasive. See *Tandon Corp. v. U.S. Int’l Trade Comm’n*, 831 F.2d 1017, 1018–19 (Fed. Cir. 1987); see also *Texas Instruments Inc. v. U.S. Int’l Trade Comm’n*, 851 F.2d 342, 344 (Fed. Cir. 1988); *Corning Glass Works v. U.S. Int’l Trade Comm’n*, 799 F.2d 1559, 1570 n.12 (Fed. Cir. 1986).

86. *Certain Digital Satellite System (“DSS”) Receivers*, Inv. No. 337-TA-392, USITC Pub. 3418, at 14 (Oct. 20, 1997) (initial determination), available at 1997 WL 696255.

the “applicants presented a detailed reference category list”⁸⁷ and, citing *Molins*, presumed the examiner considered the reference.⁸⁸ In *Certain Cold Cathode Fluorescent Lamp (“CCFL”) Inverter Circuits*, the applicant submitted “over 500 documents” spanning “thousands of pages.”⁸⁹ But because the material references were in the first few pages of the information disclosure statement and the references had been separately identified in the transmittal letter, the ALJ did not find clear and convincing evidence of intent to deceive.⁹⁰ The ALJ also noted that the examiner commented on some of the references in the disclosure, and, citing *Molins*, stated that “absent proof to the contrary, it is assumed that the examiner did consider the references,” including the allegedly buried ones.⁹¹ Thus although the ITC has been willing to consider the defense, no ITC case has explicitly rendered a patent unenforceable because of burying.

C. Applicant Incentives to Bury

This ambivalent legal treatment encourages applicants to bury material prior art. Consider a situation where a patent applicant knows of prior art that would likely preclude the desired claims. In an effort to obtain the patent, the applicant has three options: (1) disclose the art and attempt to distinguish it, (2) withhold the art, or (3) disclose the art deceptively by burying it.⁹² The first option would either likely lead to no patent or, if the practitioner wrote claims around the prior art, a patent of diminished value to the applicant. Thus, if the applicant wants a patent with the full scope of the original claims, there are strong incentives either to withhold the prior art or bury it.

Compared to withholding prior art, burying would likely provide better outcomes for the applicant post-issuance. By actually disclosing the references, the applicant reduces significantly the threat of an inequitable conduct finding.⁹³ In addition, because the patent examiner “considered” the prior art as a matter of law, it will receive less weight as an invalidating

87. *Id.*

88. *Id.*

89. *Certain Cold Cathode Fluorescent Lamp (“CCFL”) Inverter Circuits*, Inv. No. 337-TA-666, USITC Pub. 4269, at 92 (Apr. 19, 2010) (initial determination), available at 2010 WL 1918549.

90. *Id.* at 91.

91. *Id.* at 93.

92. *Cf.* Cotropia, *supra* note 3, at 762–67 (discussing perverse incentives created by inequitable conduct claims generally). An applicant might also have incentives not to search for prior art at all, *see, e.g.*, Bhaven Sampat, *When Do Applicants Search for Prior Art?*, 53 J. L. & ECON. 399, 400–01 (2010); Mark A. Lemley & Ragesh K. Tangri, *Ending Patent Law’s Willfulness Game*, 18 BERKELEY TECH. L.J. 1086 (2003); Gideon Parchomovsky & R. Polk Wagner, *Patent Portfolios*, 154 U. PA. L. REV. 1 (2005–06), but they are less relevant to the burying discussion. In addition, separate incentives to search for prior art may be stronger. *See infra* note 94.

93. Cotropia, *supra* note 3, at 761–70.

reference in subsequent litigation.⁹⁴ In such cases the applicant not only has a patent with full claims, but also an application filled with a large cache of prior art, reducing the chances of a successful invalidity attack in litigation.

On the other hand, pre-issuance considerations between the options of withholding and burying are arguably similar and unlikely to lead an applicant to choose one over the other. Examiners are very pressed for time, and although they are presumed to have read all the references within the application they simply will not be able to review a large number of references as closely as a small disclosure due to time constraints.⁹⁵ In addition,

94. Though the standard is the same for prior art whether or not it was cited in the application, the fact that the USPTO had considered the reference can be taken into account. *See Ultra-Tex Surfaces, Inc. v. Hill Bros. Chemical Co.*, 204 F.3d 1360, 1367 (Fed. Cir. 2000) ("When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents." (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984))); *Minnesota Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1572 (Fed. Cir. 1992) ("Where the PTO has considered a piece of prior art, and issued a patent notwithstanding that prior art, a court owes some deference to the PTO's decision."); *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1467 (Fed. Cir. 1990) ("This burden is especially difficult when the prior art was before the PTO examiner during prosecution of the patent."); *Sampat*, *supra* note 92, at 415 (discussing incentives created as a result). In addition, studies suggest that in practice prior art cited in the application is less useful for invalidating a patent. *See, e.g., John R. Allison & Mark A. Lemley, Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 234 (1998) (finding that "[t]he probability of invalidity based on uncited art was 40.8%, while the probability of invalidity based on cited art was 29.6%"); P. J. Federico, *Adjudicated Patents, 1948-54*, 38 J. PAT. OFF. SOC'Y 233, 249 (1956) (finding that in forty cases where patents were rendered invalid, only six involved references submitted by the applicant; the other thirty-four cases all involved new prior art, and in half of these cases the new prior art directly led to invalidity); *cf. Kimberly A. Moore, Xenophobia in American Courts*, 97 Nw. U. L. REV. 1497, 1538 (2003) ("Patents that include more citations or more diverse citations are more likely to be valid.").

95. *See Molins PLC v. Textron, Inc.* 48 F.3d 1172, 1184 (Fed. Cir. 1995) ("It is presumed that public officials do their assigned jobs." (quoting *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 939 (Fed. Cir. 1990))); *cf. Ultra-Tex Surfaces*, 204 F.3d at 1367 ("When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents." (quoting *Am. Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984))). At the same time, the Federal Circuit has acknowledged that this presumption may be unrealistic: "The conclusion that [the examiner] was 'fully informed' rests solely on the presentation to him of a mountain of largely irrelevant data from which he is *presumed* to have been able, with his expertise and with adequate time, to have found the critical data. It ignores the real world conditions under which examiners work." *Rohm & Hass Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1573 (Fed. Cir. 1983). Real world examples further suggest the presumption is unrealistic. In *Synqor*, for example, the examiner apparently considered over a thousand prior art references for a patent application in a single day. *Vicor Corp.'s Opposition*

examiners appear more likely to make a rejection based on prior art that they find themselves than prior art submitted by the applicant.⁹⁶ And, even if the examiner does consider the buried reference, the applicant knows going into the process that statistics favor the USPTO granting the patent.⁹⁷ These conditions suggest that burying a reference may have the same effect during the application process as withholding the reference.

Given these considerations, an unscrupulous applicant unable to distinguish material prior art may have strong incentives to bury. Part II examines the problems this behavior creates.

II. COSTS OF BURYING

When applicants bury material prior art, they impose costs on the USPTO, parties trying patent infringement cases, and the general public. This section considers each cost in turn.

A. Costs to the Patent Office

Courts, commentators, and the USPTO are all concerned with the USPTO's efficiency.⁹⁸ Burying creates significant inefficiencies at the USPTO but nonetheless receives surprisingly little attention.

Burying material art with large amounts of immaterial prior art overburdens examiners.⁹⁹ Some courts assume that examiners will be able to

to Syqor's Motion to Dismiss, at 5, *Synqor, Inc. v. Cisco Sys., Inc.*, No. 11-cv-54, 2012 WL 3984865 (E.D. Tex. Sept. 11, 2012).

96. See Christopher A. Cotropia et al., *Do Applicant Patent Citations Matter? Implications for the Presumption of Validity* 10–12 (Stanford Law & Econ. Olin Working Paper No. 401, 2012), available at <http://ssrn.com/abstract=1656568> (finding applicants submitted 74% of the prior art references considered in patents, but examiners only used applicants' prior art references to reject claims 13% of the time); see also Sampat, *supra* note 92, at 401 (“[A]pplicants contribute a surprisingly low share of references to previous patents: on average, the majority of citations to previous patents come from examiners rather than applicants. Applicants routinely fail to identify even their own previous patents, which suggests that, in many cases, applicants do not conduct even cursory searches for prior art.”).

97. Mark Lemley & Bhaven Sampat, *Is the Patent Office a Rubber Stamp?*, 58 EMORY L. J. 181, 182 (2008) (finding that applicants have a 75% success rate in obtaining patents assuming that continuation of an abandoned application constitutes a single application).

98. See, e.g., *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc) (“[L]ow standards for intent and materiality have inadvertently led to many unintended consequences, among them . . . strained PTO resources, increased PTO backlog . . .”); Mark A. Lemley, *Rational Ignorance at the Patent Office*, 95 NW. U. L. REV. 1495, 1501 (2001); Robert Merges, *As Many as Six Impossible Patents Before Breakfast: Property Rights for Business Concepts and Patent System Reform*, 14 BERKELEY TECH. L.J. 577 (1999); see Office of Chief Economist, USPTO, <http://www.uspto.gov/ip/officechiefecon/index.jsp> (last visited Apr. 9, 2011) (describing the Office of the Chief Economist, one of the goals of which is to reduce backlog at the USPTO).

99. See Cotropia, *supra* note 3, at 770–72 (describing how this practice may lead to information overload).

handle such overdisclosure,¹⁰⁰ but this assumption is seriously undermined by available data. Both the number of applications filed per year has nearly doubled in the last ten years¹⁰¹ and the number of references disclosed per application has increased steadily.¹⁰² But despite increases in the USPTO's budget,¹⁰³ the USPTO has not kept up: pending patent applications rose more than 400% between 1997 and 2008.¹⁰⁴ Examiners currently spend around twenty hours per patent application,¹⁰⁵ and commentators argue that this limited amount of time hinders the USPTO's ability to provide adequate examination.¹⁰⁶

Burying exacerbates the problem by creating enormous amounts of additional reading for the examiner. Examiners not only have to deal with large disclosures but also the possibility that material prior art was purposefully hidden. If burying were prohibited, the size of disclosures would be reduced, and examiners would have more time to review more applications, increasing USPTO efficiency. Examiners might also put more stock in applicant-submitted references if applicants did not bury. For example, one study suggests that examiners tend to use the results of their own prior art searches in making decisions about patent applications, as opposed to

100. See *supra* note 95 and accompanying text.

101. Compare U.S. PATENT & TRADEMARK OFFICE, PATENTS (1999), available at <http://www.uspto.gov/about/stratplan/ar/1999/99patents.pdf> (272,221 patent applications in fiscal year 1999), with U.S. PATENT & TRADEMARK OFFICE, U.S. PATENT AND TRADEMARK OFFICE PERFORMANCE AND ACCOUNTABILITY REPORT FISCAL YEAR 2009 (2010), available at <http://www.uspto.gov/about/stratplan/ar/2009/2009annualreport.pdf> (485,500 patent applications in fiscal year 2009).

102. See Dennis Crouch & Jason Rantanen, *Citing References to the USPTO*, PATENTLY-O (July 13, 2010), <http://www.patentlyo.com/patent/2010/07/my-entry.html>; see also Cotropia et al., *supra* note 96 (noting anecdotal evidence of this and the diminished relevance of the references).

103. Compare *Summary of Financial and Performance Highlights*, USPTO.GOV (Jan. 14, 2011, 13:58 PM), http://www.uspto.gov/about/stratplan/ar/2010/par_01.html (\$1,436,432,000 in 2010), with *Financial and Performance Highlights*, USPTO.GOV (July 4, 2009, 1:36 PM), http://www.uspto.gov/about/stratplan/ar/2005/01_summary.jsp (\$1,240,798,000 in 2005), and *U.S. Patent and Trademark Office Consolidated Balance Sheets*, USPTO.GOV (Nov. 10, 2009, 2:27 PM), http://www.uspto.gov/about/stratplan/ar/2001/04a_conbalsheet.jsp (\$1,072,594,000 in 2001).

104. See Gene Quinn, *How to Fix the USPTO*, IPWATCHDOG.COM (Nov. 21, 2008), <http://ipwatchdog.com/2008/11/21/how-to-fix-the-uspto/id=441/>. Although the USPTO receives revenue from patent applications, Congress has apportioned some of these funds to general federal funds. See *Figueroa v. United States*, 466 F.3d 1023, 1032–34 (Fed. Cir. 2006) (upholding the constitutionality of the apportionment scheme).

105. NAT'L RESEARCH COUNCIL OF THE NAT'L ACADS., *PATENT SYSTEM FOR THE 21ST CENTURY* (Stephen A. Merrill et al. eds., 2004) (finding examiners usually spend no more than twenty hours on a given application); Lemley, *supra* note 98, at 1500 (averaging eighteen hours across studies).

106. See, e.g., Doug Lichtman & Mark A. Lemley, *Rethinking Patent Law's Presumption of Validity*, 60 STAN. L. REV. 45, 46–47 (2007) (recognizing burdens on USPTO); Lemley, *supra* note 98, at 1497–500 (discussing costs of patent prosecution on USPTO).

references cited by applicants.¹⁰⁷ The study found that the likelihood an applicant-cited reference was used decreased as the number of applicant-cited references, but the decrease was statistically insignificant.¹⁰⁸ This may be a reaction to current disclosure practices by applicants, leading examiners to ignore applicant-submitted art wholesale.¹⁰⁹ Changes in applicant disclosure behavior would allow examiners to put more trust in the disclosures applicants submit, giving applicant-submitted materials greater weight during the application process. This trust may reduce examiners' need to do their own prior art searches and may further increase efficiency.

B. Costs to Litigants

Courts hold the most power to punish patentees who bury material prior art. However, courts are reluctant to recognize burying as inequitable conduct, which in turn handicaps their ability to function as a forum for policing patent quality. Not only does burying make litigation a less effective check on patent quality, it also makes litigation more expensive.¹¹⁰ All else being equal, the cost to litigate a patent with a hundred references submitted by the applicant should be higher than the cost to litigate a patent with ten references submitted by the applicant.¹¹¹ Although time might be saved by having many prior art references already provided in the application, if the buried reference is disclosed with numerous *immaterial* references then little or no time is actually saved. Given the already high costs of discovery in patent litigation, increased costs from buried prior art is particularly problematic.¹¹²

107. See generally Cotropia et al., *supra* note 96.

108. *Id.* at 16.

109. Such an explanation is not inconsistent with the "examiner myopia" hypothesis put forward in the paper. *Id.* at 29–30.

110. Patent infringement litigation is expensive. It costs an average of \$2 million per party when \$1 million to \$25 million is at risk. See Joseph Farrell & Robert P. Merges, *Incentives to Challenge and Defend Patents: Why Litigation Won't Reliably Fix Patent Office Errors and Why Administrative Patent Office Review Might Help*, 19 BERKELY TECH. L.J. 943 (2004). American Intellectual Property Law Association ("AIPLA") estimates that the median cost of litigation per side in a patent infringement lawsuit when \$1 to \$25 million is at stake is \$2.5 million (more than \$25 million at risk had a \$5 million median). STEVEN M. AUVEL & DAVID A. DIVINE, AIPLA REPORT OF THE ECONOMIC SURVEY 2011 (2011).

111. The Federal Circuit recognized that one effect of this excessive disclosure in patent applications "increased adjudication cost and complexity" in courts. *Therasense, Inc., v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc).

112. AIPLA has estimated that in 2001, the cost of litigating a patent through the discovery stage was \$1.5 million, with the total cost through the end of trial being \$2.9 million. In 2005, these numbers increased to \$3 million and \$4.5 million, respectively. Neil A. Smith, *Complex Patent Suits: The Use of Special Masters for Claim Construction*, 2 LANDSLIDE 36, 39 (2009).

These problems will only get worse. As the number of applications increases,¹¹³ so does the amount of disclosure,¹¹⁴ litigation,¹¹⁵ and inequitable conduct allegations.¹¹⁶ This rise will likely continue despite the recent reforms to the inequitable conduct doctrine.¹¹⁷ Furthermore, patents with buried prior art may be litigated more often.¹¹⁸ Such patents will likely increase the already high costs of patent litigation,¹¹⁹ and these costs may prevent private enforcers of patent quality from performing their function.¹²⁰

C. Costs to the Public

The patent system is intended to balance the benefits of encouraging innovation with the costs of granting a limited monopoly on that innovation.¹²¹ Granting patents that contain buried prior art disrupts this balance by generating higher costs than that of a properly issued patent, diminishing innovation, and eroding public trust in the patent system. This section focuses on these costs.

113. See *supra* note 97.

114. See *supra* note 98.

115. Of course, one may not expect a one-to-one increase among the numbers of applicants and disclosures: more patent applications does not necessarily mean more issued patents, and more issued patents does not necessarily mean more patents worth litigating. Cf. Allison & Lemley, *supra* note 94.

116. Inequitable conduct is pled in somewhere between 16–35% of reported patent litigation opinions. See Mack, *supra* note 3. Many cases settle, however, so the number of times inequitable conduct actually appears is probably much higher.

117. Cf. Peng et al., *supra* note 75, at 387–90 (speculating that allegations of inequitable conduct will remain the same after *Therasense* as many of the factors motivating alleged infringers to claim inequitable conduct remain the same).

118. Patents with more cited references tend to be litigated more often; patents with buried prior art, which would usually involve a large number of citations, may be more likely to be litigated as well. Cf. Lee Petherbridge et al., *Unenforceability*, (Univ. of Penn. Law Sch., Public Law Research Paper No. 12-28, 2012) available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2167417 (litigated patents cite more references than unlitigated patents); John Alison et al., *Extreme Value or Trolls on Top? The Characteristics of the Most-Litigated Patents*, 158 U. PA. L. REV. 1, 15 (2009) (“The most-litigated patents cite nearly three times as many U.S. and foreign patents as other litigated patents and nearly ten times as many nonpatent prior art references as other litigated patents. This is particularly notable given that litigated patents themselves cite much more prior art than unlitigated patents.”); Sampat, *supra* note 92 (applicants submit additional prior art for potentially more lucrative patent applications).

119. See *supra* notes 110–12 and accompanying text.

120. See Farrell & Merges, *supra* note 110; Shubha Gosh & Jay Kesan, *What Do Patents Purchase? In Search of Optimal Ignorance at the Patent Office*, 40 Hous. L. REV. 1219, 1229 (2004). This may lead to the problems noted *infra* Part II.C. For other issues with using litigation as a private enforcement mechanism, see Katherine Zandy, Note, *Too Much, Too Little, or Just Right? A Goldilocks Approach to Patent Reexamination Reform*, 61 N.Y.U. ANN. SURV. AM. L. 865, 869 (2006).

121. See Jeanne Fromer, *Patent Disclosure*, 94 IOWA L. REV. 539, 541 (2009).

First, patents obtained through burying may increase litigation.¹²² Applicants that bury prior art know others may already be using similar technology that could have anticipated the claims of the patent, and they may use this to their advantage to sue as many parties as possible.¹²³ These in terrorem effects are particularly problematic because a patent issued with buried prior art will likely not be found unenforceable for inequitable conduct. Additionally, the assumption that the examiner “considered” the prior art makes it difficult to use the art to invalidate the patent.¹²⁴ Thus, even though the patent should not have been issued, it presents a credible threat.¹²⁵ Because the plaintiff is asserting a patent with buried prior art that should not have been issued, the defendant faces significant costs that could have gone to research and development or other socially useful purposes.¹²⁶ Such costs consequently may drive up prices of products and services.¹²⁷

Litigation (and the possibility of an injunction) might not occur if the patentee offers a sufficiently low license rate, a practice known as holdup licensing.¹²⁸ But even though licensing fees may cost less than litigation, the result is still inefficient. And if potential licensees know the patent was issued based on buried prior art, they will also know that a court is unlikely to render the patent unenforceable for inequitable conduct, making them more likely to settle and accept a license.¹²⁹ To the extent the patent may still be challenged on other grounds, any encouragement to settle is a cost in and of itself where the patentee may continue to assert the patent against others.

Patents based on buried prior art can have anticompetitive and anti-innovative effects. In general, issuance of a patent can block market entry in

122. See *supra* note 118.

123. See Lichtman & Lemley, *supra* note 106, at 48; see also Lemley, *supra* note 98, at 1515.

124. Certain Cold Cathode Fluorescent Lamp (“CCFL”) Inverter Circuits, Inv. No. 337-TA-666, USITC Pub. 4269 (Apr. 19, 2010) (initial determination).

125. See *infra* Part III.B (regarding the burying doctrine).

126. SUSAN DEŠANTI ET AL., FED. TRADE COMM’N, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY 5–6 (2003), available at <http://www.ftc.gov/os/2003/10/innovationrpt.pdf>; Lemley, *supra* note 98, at 1515.

127. Farrell & Merges, *supra* note 110, at 945; Megan La Belle, *Patent Litigation, Personal Jurisdiction, and the Public Good*, 18 GEO. MASON L. REV. 43, 51 (2010).

128. Certain Cold Cathode Fluorescent Lamp (“CCFL”) Inverter Circuits, Inv. No. 337-TA-666, USITC Pub. 4269, at 5 (Apr. 19, 2010) (initial determination), available at 2010 WL 1918549 (citing Mark Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991 (2007)); La Belle, *supra* note 127; Lemley, *supra* note 98, at 1515, 1517; Kristen Osenaga, *Entrance Ramps, Tolls, and Express Lanes—Proposals for Decreasing Traffic Congestion in the Patent Office*, 33 FL. ST. U. L. REV. 119, 126 (2005); *Edited & Excerpted Transcript of the Symposium on Ideas Into Action: Implementing Reform of the Patent System*, 19 BERKELEY TECH. L. J. 1053, 1126–27 (2004).

129. And perhaps less likely to render the patent invalid on any of the cited prior art, since it was in fact cited. See *supra* note 94 (although the clear and convincing evidence standard is the same for cited and non-cited art, previously cited prior art is often less successful in invalidating a patent).

some contexts.¹³⁰ When patentees are diligent in their enforcement, potential entrants know they either have to litigate or get a license for technology that is already known or obvious in the industry, increasing barriers to entry and reducing competition.¹³¹ This is a normal result of the patent system, but this result becomes a problem in situations where the patent should never have been granted, such as when it was issued over buried prior art. The effects of granting such patents could disproportionately affect smaller businesses, as they will have fewer resources to pay for the costs the patentee imposes on them.¹³² Existing businesses may also be less inclined to develop downstream improvements on the type of technology the patent covers for fear of infringement.¹³³ One could object that few businesses will be likely to drop their product lines when they know the patent was obtained illicitly.¹³⁴ And even if the applicant did bury prior art, courts are unlikely to render the issued patent unenforceable.¹³⁵

Burying creates delays at the USPTO, which can have negative effects on those outside the patent system. Since patent terms are calculated from the time of filing rather than the time of issue, the more overburdened the examiner, the longer a given patent will be stuck at the USPTO,¹³⁶ and the shorter the term the patent will have.¹³⁷ Delays in this process can consequently stall creation of new jobs and products as obtaining a patent is often

130. As in the case of Abbreviated New Drug Application ("ANDA") approvals. See Cotropia et al., *supra* note 96, at 5.

131. See David Hricik, *Aerial Boundaries: The Duty of Candor as a Limitation on the Duty of Patent Practitioners to Advocate for Maximum Patent Coverage*, 44 S. TEX. L. REV. 205, 222 (2002); cf. Lemley, *supra* note 98, at 1517.

132. Lemley, *supra* note 98, at 1516. Even if licenses or settlements are structured to take into account the smaller entities' revenues, legal fees might not.

133. See Cotropia et al., *supra* note 96, at 5 (citing Colleen Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571 (2009)); Stuart J.H. Graham & Ted Sichelman, *Why Do Start-Ups Patent?*, 23 BERKELEY TECH. L.J. 1063, 1085 (2008); Jay P. Kesan, *Carrots and Sticks to Create a Better Patent System*, 17 BERKELEY TECH. L.J. 763, 769–70 (2002); Katherine Nolan-Stevaux, *Inequitable Conduct Claims in the 21st Century: Combating the Plague*, 20 BERKELEY TECH. L.J. 147, 167 (2005).

134. Lemley, *supra* note 98, at 1516–17 ("Based on the advice of counsel, the company might conceivably change its business plans, but the recipient's counsel will rarely advise such a course of action when the patent is objectively invalid. Another possible reaction is to give in without a fight. Some companies, especially small ones unsophisticated in patent law, may simply drop their plans to sell a product once a patent is brought to their attention, without even entering into a license negotiation. Again, though, this is an unusual reaction."); see, e.g., Mark Lemley, *Ignoring Patents*, 2008 MICH. ST. L. REV. 19, 20.

135. See *supra* Part I.C.

136. This is assuming the USPTO does not wish to reduce the quality of examination.

137. Osenaga, *supra* note 128, at 127–28. Note however that patent term adjustments address this issue to some extent. See 35 U.S.C. § 154(b) (2011); 37 C.F.R. §§ 1.702–.703 (2012).

a prerequisite for starting a new company or receiving funding.¹³⁸ This in turn can stall creation of new jobs and products.¹³⁹

Finally, burying reflects poorly on the patent system, eroding public trust in it.¹⁴⁰ For example, research investment may be chilled if chances are high that the patent system will improperly impinge on the results of the research. Public perception that “bad” patents are being granted may also reduce support for the USPTO and diminish its ability to address these issues.

To combat these heightened costs, the legal regime behind the patent system must adjust to deter and punish burying. Patents issued on buried prior art should be rendered unenforceable, and rules should be adopted to prevent such patents from being issued in the first instance.

D. Counterarguments to Recognizing Burying as Inequitable Conduct

Since burying can be seen as a special form of overdisclosure, some courts have argued that prohibiting burying would trap practitioners such that they either under or overdisclose.¹⁴¹ Either the applicant will not disclose the references and the patent will be unenforceable for nondisclosure, or the applicant *will* disclose the references and the patent will mistakenly be unenforceable for deceptive overdisclosure or burying. But this argument fails to consider the ways in which the materiality and intent prongs of inequitable conduct work. A court would not find that an applicant buried prior art if all the references were material, since burying generally involves hiding a material reference under a mountain of immaterial references.¹⁴² In addition, the clear and convincing evidence standard makes it unlikely that courts will erroneously find that applicants intentionally submitted material prior art with many immaterial references.

138. See Mack, *supra* note 3.

139. Edward Wyatt, *U.S. Sets 21st-Century Goal: Building a Better Patent Office*, N.Y. TIMES (Feb. 20, 2011), <http://www.nytimes.com/2011/02/21/business/21patent.html/>.

140. Lemley argues that this is not the case, as low quality copyrights and trademarks pass all the time but the system is still respected. See Lemley, *supra* note 98, at 1522–23. However, patents are a different kind of intellectual property than copyright and require additional determinations of validity. See generally Jeanne C. Fromer, *A Psychology of Intellectual Property*, 104 NW. U. L. REV. 1441 (2010).

141. See, e.g., *Purdue Pharma Prods. L.P. v. Par Pharm. Inc.*, 642 F. Supp. 2d 329, 377–78 n.57 (D. Del. 2009) (noting the conflicting requirements between burying and nondisclosure); *Ex Parte Morning Surf Corp.*, 230 USPQ 446, 449 (B.P.A.I. 1982) (“The decision by an applicant (or patentee) not to make such newly discovered references of record in the PTO cannot be lightly made because of the seriousness of the consequences of a wrong decision. On the other hand, to inundate the Examiner with a large volume of prior art that is not material may obscure a single reference that is material and thus may be effectively as improper as withholding a material reference.”).

142. This argument assumes the litigation process will accurately determine whether or not a reference is material.

This argument also assumes that applicants will be unable to find a reasonable middle ground between under and overdisclosure. This argument is unconvincing; patent applicants in other contexts frequently make similar discretionary decisions. For example, when drafting claims, applicants balance stating a claim as broadly as possible (to increase the scope of their patent) with risking the patent application being indefinite or reading on prior art.¹⁴³ Nor is this argument limited to patent agents and attorneys—lawyers in other practices must make similar discretionary decisions,¹⁴⁴ and failing in these duties can have serious repercussions.¹⁴⁵ It is unclear why limiting burying disclosures would force applicants to either under or overdisclose, when patent applicants and lawyers are already expected to make similar discretionary decisions. Nonetheless, this essay proposes a solution to specifically address this concern.¹⁴⁶

Other commentators argue that adding more forms of inequitable conduct will make litigation more expensive.¹⁴⁷ But burying would not be alleged in every case, and in those cases that it is alleged, it would only create marginal additional costs. If a party were already in litigation for patent infringement, then a defense of burying (which would likely be asserted alongside other defenses) would be a relatively small additional expenditure. This particularly would be the case if the alleged infringer argued that the patent applicant engaged in inequitable conduct. Furthermore, any increase in the cost of litigation by allowing a burying defense would likely be offset by other costs reduced through discouraging burying.¹⁴⁸ The availability of the burying defense might also make the patentee more likely to settle in certain cases, further reducing costs.

Nor would it be prohibitively difficult to prove the required degrees of materiality and intent. In fact, materiality in burying contexts may be even easier to establish than in nondisclosure contexts because burying necessarily

143. See 35 U.S.C. § 112, ¶ 2 (2011); MPEP § 2171 (8th ed. Rev. 9, Aug. 2012).

144. See, e.g., *Brady v. Maryland*, 373 U.S. 83, 87 (1963) (prosecutor's duty to disclose *material* exculpatory evidence to the defendant); *Silvestri v. General Motors Corp.*, 271 F.3d 583, 591 (4th Cir. 2001) (party's duty to preserve *material* evidence); MODEL RULES OF PROF'L CONDUCT R. 3.3(a)(1) (lawyer's duty to disclose false statements of *material* fact previously made to a tribunal); see also *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1314–15 (Fed. Cir. 2011) (en banc) (analogizing a patent applicant's duty to disclose relevant prior art to disclosures for proxy solicitations in the securities context).

145. A *Brady* violation, for example, can lead to a conviction being overturned. Failures in other such situations could, for example, lead to adverse evidentiary inferences or sanctions.

146. See *infra* Part III.B.

147. See, e.g., Christopher A. Cotropia, *Modernizing Patent Law's Inequitable Conduct Doctrine*, 24 BERKELEY TECH. L.J. 723, 782 (2009) ("Declining to expand the duties under the doctrine would also keep litigation costs down. The more theories of liability under the doctrine, the more opportunities for an alleged infringer to assert the defense of inequitable conduct. As the duties under the doctrine increase, the easier it becomes for a defendant to find at least one plausible theory of inequitable conduct. The defendant is also able to keep the claim alive longer during litigation.")

148. See *infra* Part III.B.

entails submitting *material* prior art. By contrast, in situations involving withheld prior art, one might argue that the prior art was withheld because it was *not* material (assuming the prior art is even known to the applicant). Additionally, in the nondisclosure-based inequitable conduct case, the applicant might not have disclosed a particular reference because they actually thought it was not important. Therefore in cases where the reference was submitted, there is less of an argument that the reference is not material: the applicant's submission of the reference suggests that the reference at least *could* be material, because otherwise the applicant is claiming they provided the USPTO with references they believe to be unimportant or irrelevant.¹⁴⁹ Thus, in theory, materiality should not be more difficult to prove for buried references than for withheld references. Even so, there remains one very large hurdle for the materiality prong: current Federal Circuit precedent does not consider a reference material for inequitable conduct if the reference was before the examiner.¹⁵⁰ Overcoming this hurdle requires proving the examiner did not actually read the reference, which is difficult when courts frequently and incorrectly presume examiners always read references.¹⁵¹

One could also argue that it will be impossible to provide clear and convincing evidence of an intent to deceive. But many of the same arguments regarding proof of materiality apply here as well. First, burying is an affirmative act, and submitting a presumably material reference with many other presumably immaterial references may provide a record from which to find deceptive intent.¹⁵² And even if burying were very difficult to prove, the harshness of the inequitable conduct remedy suggests that deterrence would nonetheless be effective.¹⁵³

Finally, although one could criticize calls for reform that are not grounded in empirical evidence, making an accurate empirical determination of how often applicants deceptively bury prior art would be difficult. The reason is closely related to why burying (and inequitable conduct generally) is difficult to prove: one cannot make the determination simply by looking at the face of the patent or the number of references disclosed. If this were the case, there would not be protracted litigation on the matter. Instead, at best, these indicia provide circumstantial evidence of burying.

149. To err on the side of caution, applicants might indiscriminately disclose the same set of art for similar patent applications. In such cases, issues of materiality would rightly be questioned, since this is not a form of burying material prior art, simply overdisclosure.

150. See *supra* note 55 and accompanying text.

151. See *supra* note 90 (stating the assumptions courts make); see also *infra* Part III.B (explaining why these assumptions are incorrect). Note that examiners are only allowed to testify on an extremely limited basis. See MPEP § 1701.01 (8th ed. Rev. 9, Aug. 2012) (collecting cases).

152. But see *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1313 n.3 (Fed. Cir. 2011) (en banc) (Bryson, J., dissenting) (questioning whether withholding a reference is not in fact an affirmative act).

153. See *supra* note 30 and accompanying text.

For example, one could compare the number of references cited in the patent with some baseline reasonable number of references.¹⁵⁴ But even if the baseline were accurate, comparing disclosures to a baseline would not tell the whole story. For example, an applicant might disclose a large number of references to the USPTO in good faith, without trying to bury a particular reference. Or an applicant might attempt to bury a reference in a relatively small number of references, especially if the goal is simply to mischaracterize the material reference.¹⁵⁵ Other indicators that could be useful but not definitive include whether explanations of the references were given or when the disclosure was made.¹⁵⁶ But even if they were definitive, the costs of evaluating such factors may not make them practical for empirical study.

While it may be difficult to quantify burying empirically, litigation over burying does appear to be increasing.¹⁵⁷ And if the practice is becoming more widespread, we can expect the costs associated with it to rise as well.

154. One potential baseline could be twenty references. Twenty is the average number of references cited in a patent, *see* Crouch & Rantanen, *supra* note 102, the apparent tipping point for overloading examiners, *see* Dennis Crouch, *Evidence Based Prosecutions: Non-Patent Prior Art Leads to Rejections*, PATENTLY-O BLOG (Oct. 29, 2006), http://www.patentlyo.com/patent/2006/10/evidence_based_3.html, and the cutoff proposed by the USPTO for requiring additional explanation for disclosed references. *See supra* note 25 and accompanying text. Some flexibility could be added by having the baseline depend on the technology at issue. *See* Cotropia, *supra* note 3, at 778 n. 285.

155. *See, e.g.*, *Black & Decker, Inc. v. Hoover Serv. Ctr.*, 765 F. Supp. 1129, 1137–38 (D. Conn. 1991); *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948, 964–65 (D. Fla. 1972) (referencing material submitted with twelve other references in an attempt to mischaracterize a material reference that was inequitable conduct); *see also supra* notes 43–48 and accompanying text.

156. Large disclosures made during the initial filing should theoretically be the least suspicious because applicants disclose most prior art in the initial filing. *See* Lemley, *supra* note 98, at 18 (finding that only 23% of applicant-submitted references are submitted after the filing). Once an examiner no longer has any bases for rejection and the patent is set to issue, the applicant might have far more incentives to bury. Because the patent was already expected to issue and subsequent applications will be piling up for the examiner, the applicant may feel confident that the examiner will give less attention to the disclosed references at this point. Anecdotally, the caselaw confirms that some applicants try to bury references later in the application process. *See, e.g.*, *Leviton Mfg. Co., Inc. v. Shanghai Meihao Elec., Inc.*, 613 F. Supp. 2d 670, 713 (D. Md. 2009) (finding disclosure during appeal of material reference along with hundreds of other references “suggest[s] bad, not good, faith” and finding inequitable conduct in part on these grounds), *vacated sub nom*, *Leviton Mfg. Co., Inc. v. Universal Sec. Instruments, Inc.*, 606 F.3d 1353 (Fed. Cir. 2010) (remanding on question of intent).

157. Though the paper does not claim to have found *every* published case on burying, nearly all of the cases the Article did find are from the last ten years, particularly the last five. Industry publications are beginning to appear on the topic as well. *See, e.g.*, 4 ROBERT A. MATTHEWS, ANNOTATED PATENT DIGEST § 27:26 (2011); Joseph A. Saltiel & Duan Fu, *Is Burying a Material Reference Inequitable Conduct?*, JENNER & BLOCK (July 16, 2010), http://www.jenner.com/system/assets/assets/4524/original/Is_Burying_A_Material_Reference_Inequitable_Conduct.pdf.

III. SOLUTIONS

This Part proposes ways to deter and punish burying. Much like Part I, the discussion is divided between the USPTO and the courts. The aim in both sections is to find ways to regulate burying such that the costs of prohibiting burying do not exceed the costs the practice creates.

A. For the Patent Office

Some commentators have suggested that the USPTO is a more appropriate venue than courts to address issues with the patent system. For example, effective enforcement through litigation may be marred by skewed incentives and monetary imbalances between the parties.¹⁵⁸ Judges and juries may also have difficulty following the technical nature of the patent claims, making it harder for courts to create sound patent policy.¹⁵⁹ To the extent the USPTO does not have these problems, changing USPTO rules would be the preferable way to address burying.

One potential change to USPTO rules involves modifying the requirements for submitting references. Rule 11.18(b)(2) requires an applicant to make a “reasonable inquiry” into the content of a patent submission. One interpretation of this rule is that it requires that applicants actually read the information they submit.¹⁶⁰ If an applicant reads every reference and makes a truly reasonable inquiry (more than just skimming), then it is less likely that an applicant would submit IDSs with hundreds of references.¹⁶¹ But since it is not easy to prove that an applicant made a reasonable inquiry or fully read each reference, this rule may be difficult to enforce. Alternately, each applicant could be required to highlight the most important references in their submission. MPEP § 2004.13 already suggests this approach.¹⁶² But even if highlighting the most important references were required, this still might not be effective as the applicant would be determining what to highlight and, absent some upper bound, the applicant would likely err on the side of over-highlighting.

158. See Farrell & Merges, *supra* note 110, at 951–60 (suggesting litigation may not be an effective ex-post mechanism because, for example, parties are not always on equal footing financially and do not always have the same amount at stake).

159. See Lichtman & Lemley, *supra* note 106, at 67–68.

160. See *supra* note 18 and accompanying text.

161. See Cotropia, *supra* note 3, at 778 (“Rule 10.18(b)(2) [now 11.18(b)(2)] requires patent attorneys to make an “inquiry reasonable under the circumstances” as to why a paper is submitted Enforcement of this rule would temper the amount of low-cost overcompliance.”).

162. See MPEP § 2004.13 (8th ed. Rev. 9, Aug. 2012) (“It is desirable to avoid the submission of long lists of documents if it can be avoided. Eliminate clearly irrelevant and marginally pertinent cumulative information. If a long list is submitted, highlight those documents which have been specifically brought to applicant’s attention and/or are known to be of most significance.”). It is unclear what, if anything, happens if an applicant does not follow the suggestion.

A broader, and perhaps more difficult, modification would be to change what each applicant is required to submit. This would involve changing Rule 1.56, which governs the standard of materiality for applicant disclosures. Currently, Rule 1.56 encourages the submission of large numbers of questionably material references.¹⁶³ Tightening the standard of materiality might therefore discourage burying by discouraging applicants from submitting excessive references.¹⁶⁴ A higher materiality standard would also make it more likely that unimportant references disclosed through burying would not be found material.

Given these considerations, we turn to Rule 1.56. The rule currently states that “[i]nformation is material [if it creates] a prima facie case of unpatentability A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable [via] preponderance of evidence” One solution may be to raise the standard to that recently adopted by the Federal Circuit in *Therasense*.¹⁶⁵

Tightening the materiality standard at the USPTO, however, is not without problems. First, it may encourage applicants to withhold relevant prior art. And though the USPTO currently faces a problem of overdisclosure, changing the standard may tip the scales back towards underdisclosure. Finally, the duty of candor envisioned by the rule might arguably be enough to cover burying as is.¹⁶⁶ This Essay therefore proposes changes to the materiality standard for the inequitable conduct doctrine instead, in a subsequent section below.¹⁶⁷

The USPTO could also enact entirely new rules. One possibility is to require applicants to provide a brief summary of each reference in the patent application.¹⁶⁸ Currently such summaries are required only for foreign language references, but if the rule were applied to English language references, burying would be prohibitively costly for many applicants. The summaries of the disclosed prior art should help USPTO examiners save time. More practical and fewer overall submissions may also help examiners

163. 37 C.F.R. § 1.56 (2012).

164. Cf. Peters, *supra* note 3, at 1547, 1557–65 (arguing that the standard of Rule 1.56 is superior to the old standard as it is narrower, and so mitigates information overload). But see Cotropia, *supra* note 3, at 779 (arguing that a narrow standard of materiality would make the inequitable conduct doctrine redundant in patent litigation).

165. See *supra* Part I.B.1.

166. See Sean M. O'Connor, *Defusing the “Atomic Bomb” of Patent Litigation: Avoiding and Defending Against Allegations of Inequitable Conduct After McKesson et al.*, 9 J. MARSHALL REV. INTELL. PROP. 330, 348 (2010) (“[C]urrent calls for patent applicants and their attorneys to simply disclose every imaginable reference . . . may well violate Rule 56 as much as a failure to disclose a material reference.”); Peters, *supra* note 3, at 1557–62; see also *Ex Parte Morning Surf Corp.*, 230 USPQ 446, 449 (B.P.A.I. 1982) (“[T]o inundate the Examiner with a large volume of prior art that is not material may obscure a single reference that is material and thus may be effectively as improper as withholding a material reference.”).

167. See *infra* Part III.B.

168. The USPTO used to require this before changing the rule in 1992. See Duty of Disclosure, 57 Fed. Reg. 2021-02 (proposed Jan. 17, 1992).

trust applicant-submitted prior art. While these additional rules would lead to more costs borne by applicants, such costs should be imposed on applicants instead of the greater public—it is, after all, the applicant's patent. Examiners at the USPTO also face an informational asymmetry relative to applicants, making applicants the least cost provider of such information.¹⁶⁹

The USPTO previously tried and failed to establish a requirement that applicants provide explanations for how certain prior art affects patentability, but the proposal in this Essay is not so demanding. By contrast, the proposal here would only require that references be summarized, which is arguably a lesser liability-inducing activity than requiring actual explanations of how each reference affects patentability.¹⁷⁰ If actual explanations were required, they might be so expensive as to discourage even proper disclosures.¹⁷¹ And examiners may also become overloaded if they have too many references before them.¹⁷² Though summarizing references may present similar problems, the problems would be of a lesser magnitude.

Another possible rule would involve sliding scale fees for disclosures.¹⁷³ Currently, submitting an IDS entails a fixed cost of \$180, regardless of how many references are included.¹⁷⁴ Applicants could instead be charged a sliding scale fee based on the number of documents disclosed. After a certain minimum number of “free” references,¹⁷⁵ additional references would cost money to disclose. The fee could go up, perhaps exponentially, upon meeting certain thresholds in order to make it more effective. What these thresholds should be is a difficult question, however. Ideally the threshold and the fee would make burying cost prohibitive for at least some applicants. In situations where the applicants still choose to bury, the fees generated should in theory increase the revenue of the USPTO, and allow it

169. Jeffrey M. Kuhn, *Information Overload at the U.S. Patent & Trademark Office: Reframing the Duty of Disclosure in Patent Law as a Search and Filter Problem*, 13 YALE J.L. & TECH. 90, 136 (2011) (“Nevertheless, significantly reducing the penalties for failing to disclose references would effectively shift the duty to locate these references to the USPTO. Such a reallocation of responsibility would seem markedly inefficient in view of the information asymmetries that often exist between applicants and the USPTO.”); Bhaven N. Sampat, *Determinants of Patent Quality: An Empirical Analysis 3* (Sept. 2005) (unpublished manuscript), available at <http://www.immagic.com/eLibrary/ARCHIVES/GENERAL/COLUMBIA/C050902S.pdf> (“Using these data, I find strong evidence that patent examiners have a comparative disadvantage in searching for non-patent prior art and foreign patents, suggesting that all else equal, patents are likely to be of lower quality for technological areas for which most prior art is not embodied in U.S. Patents.”).

170. See *supra* notes 23–28 and accompanying text.

171. See Cotropia, *supra* note 3, at 780 (“Relevancy statements, which require the applicant to identify the relevant portions of the submitted information and distinguish the disclosed invention . . . [range] from \$12,250 to \$20,000.”).

172. *Id.* at 770–71, 781.

173. An alternative might involve simply capping the size of the information disclosure.

174. 37 C.F.R. § 1.17(p) (2012). In this sense applicants are only limited by what their patent agent bills them.

175. Perhaps twenty. *Cf. supra* note 154.

to parse through such disclosures more effectively. This sliding scale solution would also balance the playing field for smaller companies, since such companies might lack the resources to blanket the USPTO with unnecessary references.¹⁷⁶ Implementing a separate small entity fee schedule for information disclosures could make the application process fairer still.¹⁷⁷

Requiring applicants to provide a brief summary of each reference and implementing a sliding scale fee schedule based on the number of disclosures are two of the simplest and most effective ways to deter burying at the USPTO. Although tightening the materiality standard under Rule 1.56 to require clear and convincing evidence could also deter burying, changes to materiality standards may be better left for the inequitable conduct doctrine.

B. For Courts

While some commentators have argued that the expertise of the USPTO makes it better equipped to police patent quality,¹⁷⁸ others suggest that the USPTO only provides a “first pass,” and instead litigation between private parties provides a more effective mechanism.¹⁷⁹ But in order for courts to address burying, the practice must first be recognized as inequitable conduct.

As a preliminary matter, burying involves a different form of deceit than traditional inequitable conduct: buried references are actually disclosed as opposed to intentionally withheld. This difference suggests the need for different or even new rules regarding inequitable conduct. As an example, consider the following rule from *Scripps*: “[W]hen a reference was before the examiner, whether through the examiner’s search or the applicant’s disclosure, it can not be deemed to have been withheld.”¹⁸⁰ The rule, which is problematic in many respects,¹⁸¹ relies on an assumption that makes it inap-

176. But see Katherine J. Strandburg et al., *Patent Citation Networks Revisited: Signs of a Twenty-First Century Change?*, 87 N.C. L. REV. 1657, 1696 fig.17 (2009) (finding only a small increase in frequency of mass citations in patents for companies that hold many patents as opposed to companies holding few patents).

177. IDSs currently do not have a small fee schedule. See 37 C.F.R. §§ 1.17(p), 1.27 (2012).

178. See *supra* note 155.

179. See generally Lemley, *supra* note 98. Litigation leads to more time being focused on patents that matter, and litigation allows a closer look at the patent than the normal examiner can provide. Cf. Lichtman & Lemley, *supra* note 106, at 47 (discussing why courts may be better equipped to determine validity than the USPTO). In addition, creating a flawless patent office, even if possible, would be immensely expensive. Lemley, *supra* note 98, at 1497. And there is evidence to suggest that the inequitable conduct doctrine can and does affect applicant incentives. See Petherbridge et al., *supra* note 118, at 24–26.

180. *Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1582 (Fed. Cir. 1991).

181. For example, “[t]he conclusion that [the examiner] was ‘fully informed’ rests solely on the presentation to him of a mountain of largely irrelevant data from which he is *presumed* to have been able, with his expertise and with adequate time, to have found the critical data. It ignores the real world conditions under which examiners work.” *Rohm & Hass Co. v. Crystal*

plicable to burying. In particular, the rule assumes that an applicant would only attempt to deceive the USPTO via nondisclosure, and thus in those cases the only way the examiner would have the reference is if the examiner discovered it himself.¹⁸² This assumption falls apart in situations where the applicant attempted to deceive the USPTO by burying the prior art. In such cases, although the relevant prior art is formally before the examiner, the examiner will not necessarily have considered it on account of the applicant's flooding the examiner with countless other references. Thus, limits on inequitable conduct based off the rule from *Scripps* would not make sense for burying.

In addition, the tension between preventing nondisclosure and preventing overdisclosure—a problem not unique to burying—must be accounted for. Striking the right balance with a single standard of materiality may not be possible. Instead, two separate materiality standards—one for deceptive overdisclosure, such as burying, and one for withholding references—would be more appropriate.

For deceptive overdisclosure (i.e., burying), a relatively high standard of materiality is needed. The court in *Therasense* essentially recognized this by raising the standard of materiality in response to the proliferation of inequitable conduct charges and the related problem of overdisclosure at the USPTO.¹⁸³ A higher materiality standard would limit the number of references deemed material to patentability and in turn discourage the massive disclosures that generally accompany attempts to bury. By contrast, for deceptive nondisclosure, a relatively low standard of materiality would be most effective. A relatively low materiality standard would encourage applicants to submit reasonably important references without creating undue fear of inequitable conduct charges.

As to what the materiality standards should actually be, the “but-for” standard from *Therasense* provides a starting point for deceptive overdisclosure by burying. Under the *Therasense* standard, a reference is material if an examiner would not have allowed the application in light of the reference.¹⁸⁴ *Therasense* itself noted the related problem of overdisclosure, and it would certainly make sense that applicants need not disclose a reference that would not affect the validity of the claims applied for. The materiality standard

Chem. Co., 722 F.2d 1556, 1573 (Fed. Cir. 1983). More specifically, however, the rule does not punish applicants who attempted to deceive the USPTO but failed. Contrast this with criminal law, where an attempt is punished similarly to commission of the crime. See, e.g., N.Y. PENAL LAW §§ 110.00, 110.05 (2012). Note too that applicants used to face punishment for attempting to deceive the USPTO. See Shashank Upadhye, *Liar Liar Pants on Fire: Towards a Narrow Construction for Inequitable Conduct as Applied to the Prosecution of Medical Device and Drug Patent Applications*, 72 UMKC L. REV. 669, 716 (2004).

182. Indeed, this was the situation in *Scripps*. See *supra* Part I.B.2.

183. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1285, 1289–90 (Fed. Cir. 2011) (en banc).

184. See *id.* at 1291.

from *Therasense* is therefore suitable to help prevent and punish burying. For nondisclosure, however, the current USPTO standard—which the court in *Therasense* recognizes as broader than the one it adopted¹⁸⁵—would be more appropriate.¹⁸⁶ The USPTO's standard has gone through multiple iterations and has generally proven useful in preventing applicants from withholding material prior art. Together, these two standards provide reasonable, fair tests for to find a reference either improperly withheld or buried.

While separate standards make sense for materiality, a single standard for intent remains appropriate. First, the trapping argument does not apply in this context—either the applicant did or did not intend to deceive the USPTO. Second, there is no reason to think that deceptive overdisclosure by burying should be any more or less culpable than deceptive nondisclosure. Both involve deceitful conduct, and as such the appropriate inquiry for both is whether there was an intent to deceive.

The most critical change needed to the inequitable conduct doctrine is to make the intent prong properly account for burying. The current standard is clear and convincing evidence of intent to deceive.¹⁸⁷ However, under that standard, evidence of *intent to bury* is not necessarily evidence of *intent to deceive*, meaning burying generally does not meet the current intent prong of inequitable conduct.¹⁸⁸ The simple solution is that burying alone, without other bad faith conduct, should suffice to satisfy the intent prong of inequitable conduct.¹⁸⁹ Courts have generally shied away from such a strong application of inequitable conduct to burying, but this must change. And in cases where evidence of burying is too weak to meet the clear and convincing evidence standard or the applicant's action was not so clearly deceptive, the

185. See *id.* at 1294–95.

186. See 37 C.F.R. § 1.56 (1992); *supra* Part I.A.

187. *Therasense*, 649 F.3d at 1290.

188. See *supra* Part I.B.

189. See Cotropia, *supra* note 3, at 778 (“[T]he intentional submission of immaterial or cumulative information should be actionable under the doctrine. . . . [This would reach] those who are truly trying to bury the examiner with information they know is irrelevant.”). Another possibility is that mischaracterization of references through burying could constitute inequitable conduct by itself, but other forms of burying could be only probative of bad faith. For an example of such mischaracterization, see *Penn Yan Boats, Inc. v. Sea Lark Boats, Inc.*, 359 F. Supp. 948 (S.D. Fla. 1972). Some commentators disagree, arguing that the inequitable conduct doctrine should only serve to make the patent system work and not inject a moral element. See David McGowan, *Inequitable Conduct*, 43 LOY. L.A. L. REV. 945, 980 (2010). But if deceptive behavior is used to break rules that are designed to make the patent system work, the morality of applicants' actions is a relevant consideration. The Federal Circuit recognizes this with an exception to the materiality prong for “affirmative egregious misconduct.” *Therasense*, 649 F.3d at 1292 (“Although but-for materiality generally must be proved to satisfy the materiality prong of inequitable conduct, this court recognizes an exception in cases of affirmative egregious misconduct. This exception to the general rule requiring but-for proof incorporates elements of the early unclean hands cases before the Supreme Court, which dealt with ‘deliberately planned and carefully executed scheme[s]’ to defraud the PTO and the courts.” (quoting *Hazel-Atlas Glass Co. v. Hartford-Empire Co.*, 322 U.S. 238, 245 (1944))).

evidence could nonetheless be probative of bad faith.¹⁹⁰ Without these changes courts will continue to lack the appropriate tools to address burying.

CONCLUSION

Burying imposes unnecessary costs on the patent system and the public. Deficiencies in both USPTO rulemaking and the inequitable conduct doctrine currently allow applicants to bury prior art with impunity. This Essay has attempted to take a comprehensive look at the practice and has posited a variety of solutions, including requiring applicants to summarize references, implementing sliding scale fees for submitting references, allowing references before the examiner to serve as a basis for inequitable conduct, creating separate standards of materiality for buried references and withheld references, and adjusting the deceptive intent prong to accommodate allegations of burying. Implementing these suggestions would help prevent applicants from burying prior art and alleviate the problems created by the practice.

190. *Cf. Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1184 (Fed. Cir. 1995) (finding burying may be probative of bad faith).